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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,375	11/03/2003	Graham Swift	103-005-CIP	1133

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7009 CASHELL MANOR COURT
DERWOOD, MD 20855-1201

EXAMINER

HAMPTON HIGHTOWER, PATRICIA

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/698,375

Applicant(s)

SWIFT ET AL.

Examiner

Patricia Hightower

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

In view of the applicants' response and terminal disclaimer filed March 09, 2005 the obviousness-type double patent rejection over claims 1-80 of copending application S.N. 10/834,908 is now moot in view of the filing of said terminal disclaimer.

However, the claims are subject to a new ground of rejection under 35 USC 102(b,e) as being anticipated by Kroner et al (USP 5,747,635 newly cited), Schubart (USP 6,395,870 newly cited) and Swift et al (USP 6,903,181 newly cited). Claims 4, 42 and 43 are subject to a new ground of rejection under 35 USC 112, second paragraph for lack of antecedent basis.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 31-32, 42 and 43 are newly rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 recites the limitation "**wherein said carboxylic acid** is selected from the group consisting of benzoic acid, thiolsuccinic acid and terephthalic acid" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 42 recites the limitation "**wherein said polymer additive...**" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claims 31-32 and 43 recite the limitation "**the derivative**" in line 1. There is insufficient antecedent basis for this limitation in the claim.

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Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-6,12-15,18-23,27-28,31-32,34-39 and 44 are newly rejected under 35 U.S.C. 102(b) as being anticipated by Kroner et al (USP 5,747,635 newly cited).

Kroner et al (USP 5,747,635 newly cited) discloses modified polyaspartic acids, the preparation thereof and use thereof, wherein the modified polyaspartic acids are obtainable by the polycondensation of (a) from 1 to 99.9 mol% of aspartic acid with (b)

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from 99 to 0.1 mol% of fatty acids, polybasic carboxylic acids/anhydrides [such as phthalic acid, terephthalic acid, sulfosuccinic acid, maleic acid, phthalic anhydride, succinic anhydride, maleic anhydride, anhydrides of polybasic carboxylic acids], polyhydroxycarboxylic acids, amines [such as ethylamine, diethylamine, methylamine, hexamethylenediamine, ethylenediamine, ethanolamine, diethanolamine and triethanolamine], alcohols, amino sugars, carbohydrates [starch] and/or non-porteingenic aminocarboxylic acids [caprolactam, polyamide] or by polymerizing monoethylenically unsaturated monomers in the presence of polyaspartic acids in the manner of a free-radically initiated graft polymerization; that anticipates the claimed invention. See abstract; col. 2, lines 61-67; col. 3, lines 1-10, 16-45, 49-65; col. 4, lines 1-6, 7-13, 41-46, 47-59, 60-67; col. 5, lines 1-3, 6-9, 15-25, 26-31, 40-65; col. 5, lines 67- col. 6, lines 1-7, 18-34, 45-50, 63-67; col. 7, lines 34-36, 50-51, 67- col. 8, lines 1-5, 13-19, 63-67; col. 9, lines 9-20, 34-47, 48-55; col. 10, lines 36-50, 51-60; claims 1-9

Kroner et al'635 teaches at col. 8, lines 6-14, suitable apparatus for carrying out the polycondensation of aspartic acid with compounds of component (b) are for example a kneader, an extruder or a heatable conveyor belt and the presence of polycondensation accerlerants results in polycondensates of superior biogradability.

Claims 1-5, 12, 13, 15, 22 and 23 are newly rejected under 35 U.S.C. 102(b) as being anticipated by Schubart (USP 6,395,870 newly cited).

Schubart (USP 6,395,870 newly cited) discloses a process for preparing biodegradable polymers having succinyl units characterized in that optionally substituted 1,4-butanedicarboxylic acid or a 1,4-butanedicarboxylic acid derivative is

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reacted with an acid anhydride that anticipates the claimed invention. See abstract; col. 2, lines 14-28,30-46, 53-67; col. 3 – col. 4, lines 1-25, 28-36, 40-52, 62-67; col. 5, lines 4-15, 53-67; col. 6, lines 18-31,37-45, 51-58; the claims.

Claims 1-44 are newly rejected under 35 U.S.C. 102(e) as being anticipated by Swift et al (USP 6,903,181 newly cited).

Swift et al (USP 6,903,181 newly cited) discloses methods of synthesis of polysuccinimide, copolymers and derivatives thereof by ring-opening initiation reactions; 1) by polymerizing aspartic acid to polysuccinimide in a supercritical fluid (SCF) such as liquid CO₂ or supercritical CO₂ in combination with an organic cosolvent, 2) the polysuccinimide or the copoly(succinimide aspartate) formed in supercritical fluid is derivatized to produce derivatives of the polysuccinimide and of the copoly(succinimide, aspartate) 3) and in another aspect of the invention the polysuccinimide or the copoly(succinimide, aspartate) formed in supercritical fluid are subsequently isolated and melt processed; that anticipates the claimed invention. See abstract; col. 3, lines 45- col. 4, lines 1-5,15-60; col. 5, lines 1-67; col. 6, lines 1-5, 36-41,57-67; col. 7, lines 41-67; col. 8, lines 1-6,7-24,35-46,60-67; col. 9, lines 1-5,6-67; col. 10, lines 1-23,31,49; col. 11, lines 1-45,46,63-67; col. 12, lines 4,10,18,23-26; col. 13, lines 1-2,620,37, 63-67; col. 14, lines 1-7; col. 15, 11,1931,37,42,51,57,65; Claims 1-23.

Swift et al '903 teaches the weight average molecular weight of the polysuccinimide is in the order of from about 2,000 to about 10,000 Dalton including all increments within that range. The patentee further teaches the polymerization of aspartic acid to polysuccinimide in a supercritical fluid is carried out in the presence of a

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catalyst (acidic catalyst), a thermal stabilizer or an antioxidant or mixtures thereof. Col. 8, lines 32-67; col. 9, lines 1-8.

Swift et al '903 teaches at col. 9, line 9- col. 1-30; that ring-opening polymerization of polysuccinimide to form derivatives, ring opening denotes the formation of a derivative of polysuccinimide by opening at least one succinimide ring as shown schematically by the reaction denoted at col. 9, wherein the patentee states derivatives such as those made from copoly(succinimide-aspartate) have been very difficult to make until the discovery that polysuccinimide can be derivatized by using a combination of amines. See col. 9, lines 31-67; col. 10, lines 1-18. The patentee further states the proper combination of various amines, derivatives can be made from polysuccinimide which are similar in functionality to those made from copoly(succinimide aspartate) but exhibit high molecular weight and reduced color.


Applicant's arguments with respect to claims 1-44 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia Hightower whose telephone number is (571) 272-1073. The examiner can normally be reached on M-F from 9:30 A.M. - 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


P. Hampton Hightower
Primary Examiner
Art Unit 1711

P. Hightower:ph
September 17, 2005